Panasonic

VHS-Compact Movie

NV-G202A

Operating Instructions

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IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

VHS-C Movie NV-G202

•The rating plate is on the bottom side of the Movie Camera.

AC Adaptor VW-AS1

•The rating plate is on the bottom side of the unit.

FOR YOUR SAFETY

■ **DO NOT REMOVE THE OUTER COVER.**

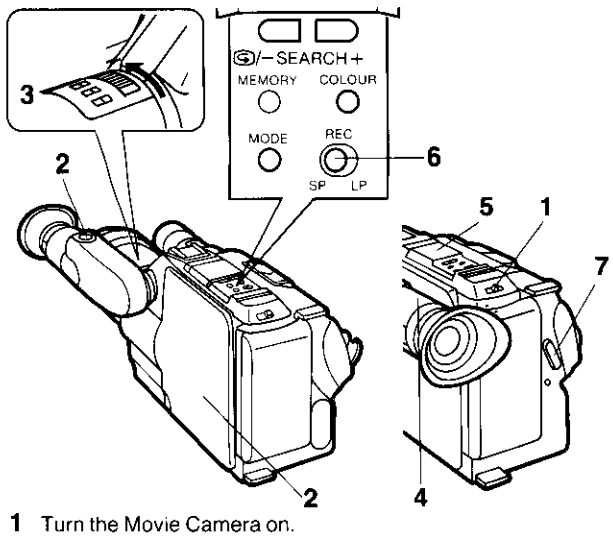
To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

IF THE SUPPLY CORD OF THIS EQUIPMENT IS DAMAGED, IT MUST BE REPLACED BY THE SPECIAL CORD.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

Camera Recording



1 Turn the Movie Camera on.

2 Turn the EVF by 180° towards the Lens, and press the Eject Button, then insert a Video Cassette.

3 Set the Camera Mode Selector Switch to "AUTO".

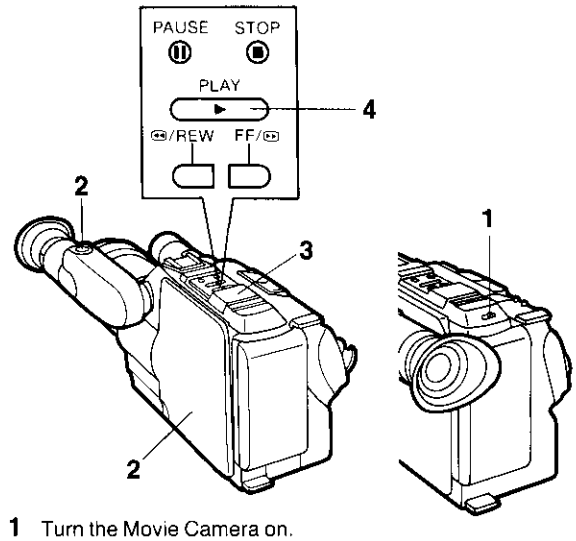
4 Pull out the EVF to its fully extended position.

5 Set the CAMERA/VTR Selector Cover to "CAMERA" (slide the CAMERA/VTR Selector Cover towards the Lens) until it stops.

6 Set the Recording Speed Selector to "SP" or "LP".

7 Press the Start/Stop Button.
- Recording starts.
- Press this button again to stop recording.

Playback



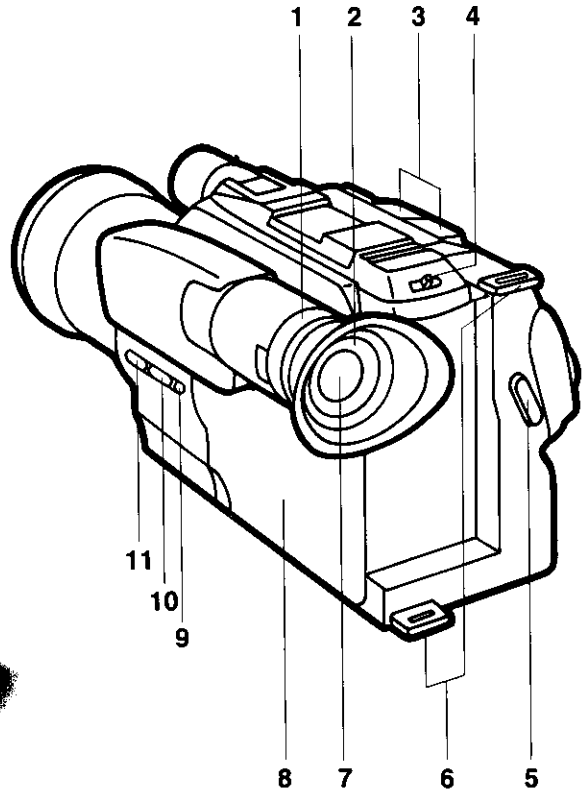
1 Turn the Movie Camera on.

2 Turn the EVF by 180° towards the Lens, and press the Eject Button, then insert the recorded cassette.

3 Set the CAMERA/VTR Selector Cover to "VTR" (slide the CAMERA/VTR Selector Cover towards the Battery Pack) until it stops.

4 Press the Play Button.
- Playback starts.
- Press the Stop Button to stop playback.

Controls and Components



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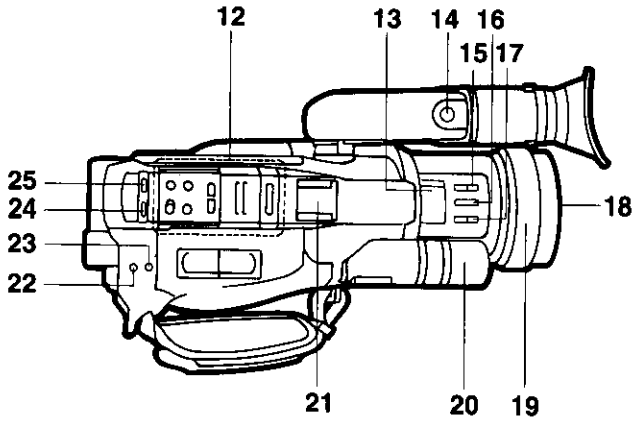

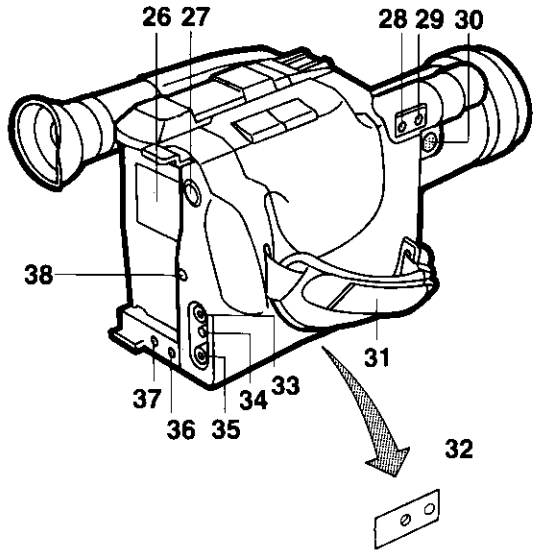

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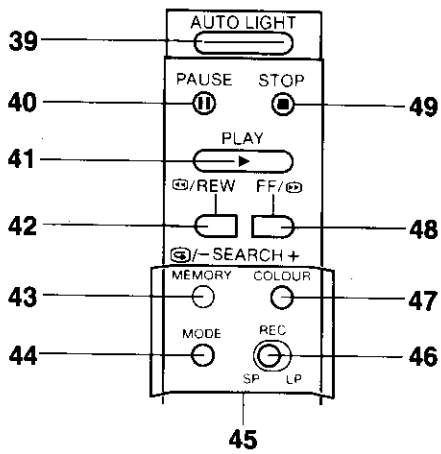
12 General Operation Controls



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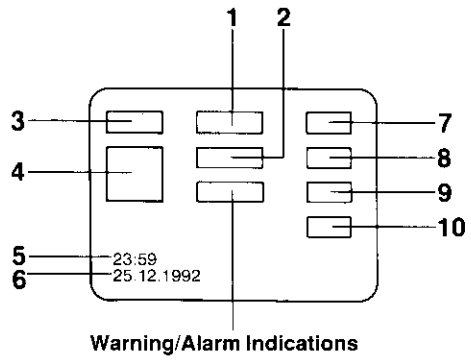
45 Function of the CAMERA/VTR Selector Cover

CAMERA position ..... For camera recording.
VTR position (as illustrated) ..... For other operations than camera recording.

Indications in the Electronic Viewfinder (EVF)

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the conditions of the Movie Camera.



Warning/Alarm Indications

Warning/Alarm Indications

When only one bar "▬" in the Battery Power Indication remains, the Battery Indication "▯" starts to flash. When the last bar has disappeared, the power lamp will flash rapidly. In this condition, there is little power left, and the Movie Camera will be turned off in a few seconds. Replace the Battery Pack with a fully recharged one.

TAPE — There is no cassette tape inserted, or the tab of the inserted cassette is broken out. The indications flashes to warn that recording is not possible.

END — During recording, the tape has almost reached its end. Replace the tape with a new one. The indication will remain lit when the tape has reached its end.

DEW — When condensation has formed inside the Movie Camera, the "DEW" indication will flash and a few seconds later, the unit turns itself off.

⊗ — Video Head Clogging (see page 20.)

BACKUP — When the button type Battery for the Title Memory and Auto Date functions is not inserted or when it is exhausted, the indication will flash for 10 seconds after the Movie Camera is turned on.

1 Remaining Battery Power Indication

E--F The "▬" indications begin to disappear from right to left as the power of the Battery Pack weakens.

- When attaching the Battery Pack to the Movie Camera, the indication "E--F" will initially be displayed for approx. one minute and then the actual remaining battery power will then be displayed.

2 Counter Indication

M 0:00.00 Tape Counter with Memory Indication

3 Auto Light Mode Indications

≋D AUTO Auto Mode

≋D ON Video Light On

4 Digital Memory Indication

WHT Colour Indication

WIPE ↑ Mode Indication (No indication in normal mode.)

5 Time Indication

6 Date Indication

7 Tape Running Indications

REC Recording mode

PAUSE Recording Pause mode, Rec Review

▷ Play mode, Camera Search (In forward direction)

II Still mode

▷▷ Fast Forward/Cue mode

◁◁ Rewind/Review mode, Camera Search (In reverse direction)

8 Recording Mode Indications

SP SP mode

LP LP mode

9 Manual White Balance Indication

WHITE Manual Mode, Not adjusted

W.SET Manual Mode, Adjusted

10 High Speed Shutter Mode Indications

1/120 1/120 sec.
1/250 1/250 sec.
1/500 1/500 sec.
1/1000 1/1000 sec.
1/2000 1/2000 sec.
1/4000 1/4000 sec.

Focus Mode Indication

MF MF Mode

- Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warnings.

Accessories

Standard Accessories

AC Adaptor
Battery Pack
Cassette Adaptor
Shoulder Strap
Audio/Video Cable
DC Input Cable
Battery for Cassette Adaptor Operation
Battery for Clock Operation
Zoom Auto Light
RF-Adaptor

CAUTION: TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE ONLY THE RECOMMENDED ACCESSORIES.

Information for your safety.

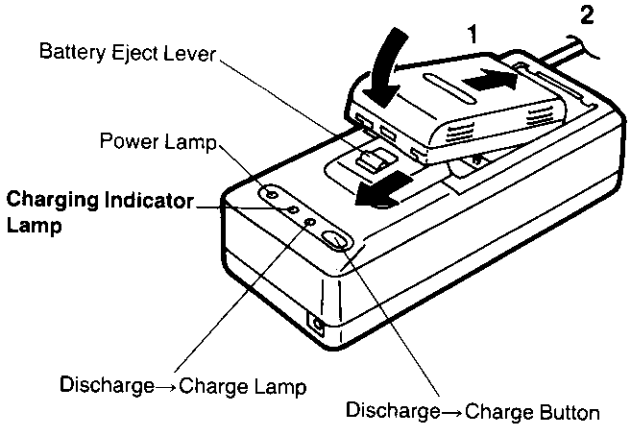
Optional Accessories

Battery Pack (VW-VBS1E)
Battery Pack (VW-VBS2E)
Battery Pack (VW-VBR1E)
Battery Pack (VW-VBR2E)
Battery Pack Holder (VW-VH1E)
Car Battery Cord (VW-ACC11E)
Battery Charger (VW-BCS1A)
Car Battery Charger (VW-KBCS1E)
Travel Kit (VW-TKS1A)
Carrying Bag (VW-CBG2E)
Video DC Light (VZ-LDS15E)
Replacement Bulb for DC Light (VZ-LL5E)
Replacement Bulb for DC Light (VZ-LL15E)
Tele Conversion Lens (VW-LT2E)
Hand Grip (VW-GPC1E)
Pause Remote Control (VW-RM1E)
L-Shaped Shoe Adaptor (VW-SK3E)
RF-Adaptor (VW-RF7E)
Cassette Adaptor (VW-TCA7E)
Standard Tripod (VZ-CT55E)
Deluxe Tripod (VZ-CT75E)
Table Tripod (VZ-CTT1E)
Character Generator (VW-CG5E)
Editing Controller (VW-EC310E)

Battery Pack

Charging

■ The Battery Pack is shipped in discharged condition and must be charged before use.



1 Attach the Battery Pack.

2 Connect the AC Adaptor to the Mains.

- The charging takes about 60 minutes for VW-VBS1E.
- When charging the Battery Pack, remove the DC Cable from the AC Adaptor.

■ When the charging is completed, slide the Battery Eject Lever in the direction of the arrow and remove the Battery Pack.

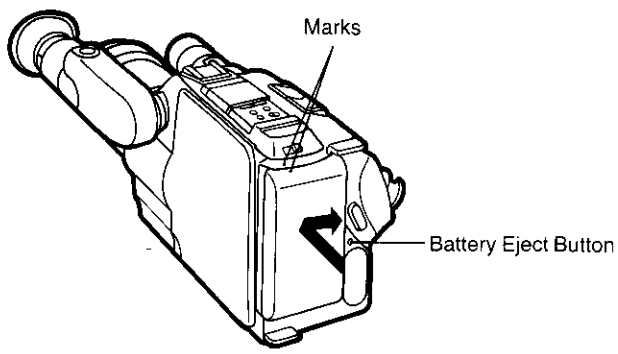
Note for the Charging Indicator Lamp:
- This lamp lights up when the charging is started.
- Even after this lamp goes out, the charging should be continued for at least two more hours to obtain maximum charge.

Note about the operation time:
- With a fully charged Battery Pack (VW-VBS1E), the Movie Camera can be used (in record mode only) continuously for approx. 45 minutes at 25°C. However, depending on how often the various functions listed below are used, and depending on the shooting conditions, the actual operation time may be considerably shorter.
  - Shooting start/stop
  - Auto focus
  - Zoom function
  - Zoom Auto Light
  - Playback, fast forward, rewind, and other operations
  - Use of the Movie Camera in low temperature

■ **Discharge→Charge Function**

The Battery Pack can be recharged for repeated use. However, if it is recharged repeatedly while there is still some charge left, its charging capacity will be gradually reduced. Therefore, if you often need to recharge semi-discharged Battery Packs, attach the Battery Pack to the AC Adaptor, connect the AC Adaptor to the Mains, and press the Discharge→Charge Button to completely discharge the Battery Pack. (The Discharge→Charge Lamp will light up, and when the discharging is finished, the Charging Indicator Lamp will light up instead.) This will increase the charging capacity and extend the operating life of the Battery Pack. Therefore, if the operating life of the Battery Pack becomes noticeably shorter, refresh it. (It is recommended to refresh the Battery Pack approx. once every five rechargings.)

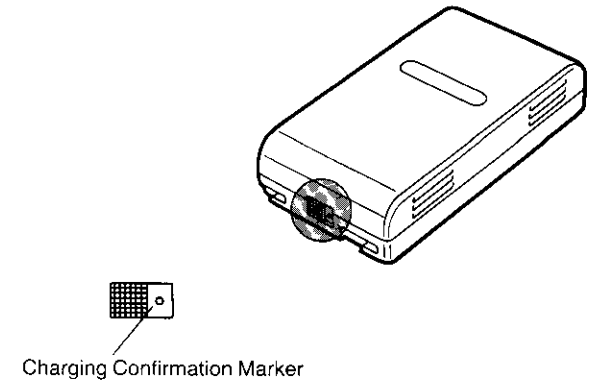
Attaching



1 Align the two marks of the Battery Pack and the Movie Camera, then slide the Battery Pack to the right until it locks with a click.
- To remove the Battery Pack, keep the **Battery Eject Button** pressed and slide Battery to the left.

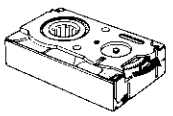
Caution:
- Wait about 10 seconds after turning the Movie Camera off, before removing the Battery Pack.
- If the Battery Pack is removed during recording or playback, the tape remains wound around the video head cylinder and could become damaged.

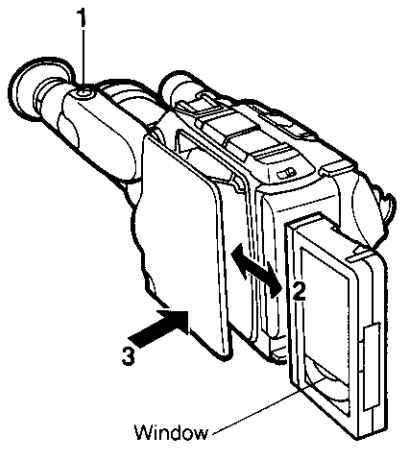
Charging Confirmation Marker on the Battery Pack



This marker makes it convenient to distinguish between charged and discharged Battery Packs. For example, visible dot means charged Battery Pack, and no dot means discharged Battery Pack.

Video Cassette





Inserting the Video Cassette

Before Inserting the Cassette

Make sure that the tape is not loose. If it is loose, pull it in by turning the cog wheel on the side of the cassette in the direction of the arrow.

1 Turn the EVF by 180° towards the Lens, and press the Eject Button.
- Do not move the EVF again before the cassette compartment cover is in its fully extended position.

2 Insert the video cassette into the cassette compartment with its window facing outside.

3 Push the cassette compartment cover inward until it locks with a click and then turn the EVF back to its original position.

Removing a Video Cassette

1 Turn the EVF by 180° towards the Lens, and press the Eject Button.

2 Pull out the video cassette.

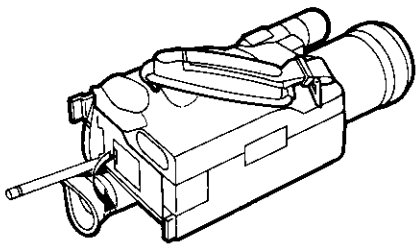
3 Push the cassette compartment cover inward until it locks with a click and then turn the EVF back to its original position.

Note:
- Use only S-VHS-C / VHS-C video cassettes.

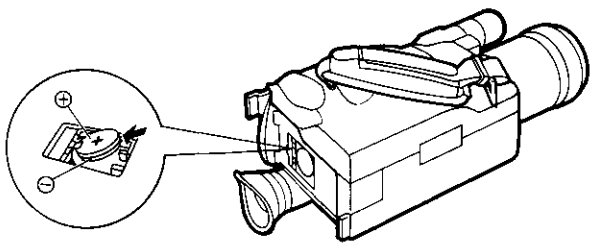
How to Insert the Battery for Clock Operation

The "CR2032" size battery is necessary for the date time and title to be memorized by the Movie Camera.

1



2



1 Depress the stopper of the lid with a ball-point pen or similar pointed object and remove the lid.

2 Insert the "CR2032" size battery on the Battery Holder with (+) mark facing upward.

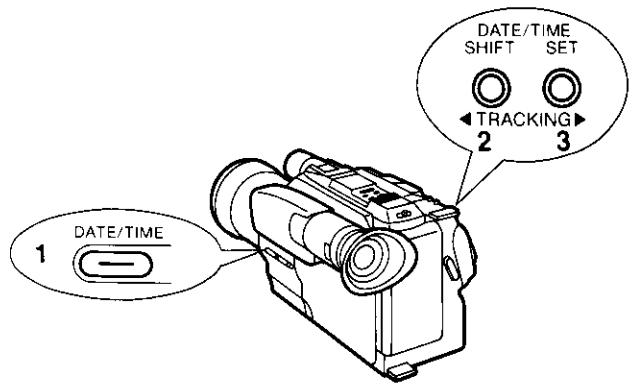
Note:

- If the battery is not inserted or if it is exhausted, the indication "BACKUP" in the EVF will flash for approximately 10 seconds when turning the Movie Camera on.
- Before exchanging the battery, turn the Movie Camera off.

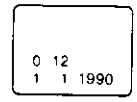
CAUTION FOR BATTERY REPLACEMENT

- The life of the battery is about one year. Inspect and if necessary, replace the Battery once a year.
- Load the new battery with its polarities (+ and −) aligned correctly.
- Do not try to short-circuit, recharge or heat the battery and do not throw it into a fire.

Setting of the Date and Clock



1 When the Date/Time Selector Button is pushed, the indication shown on the right will appear in the EVF.



- If no battery is inserted, the indication "BACKUP" will flash.

2 When the Shift Button is kept pressed for more than about 2 seconds, the "Year" portion will start to flash. Then, at every press of the Shift Button, the items to be set will flash in the following sequence.

Year→Month→Date→Hour→Minute→...

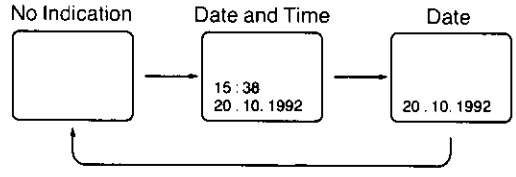
3 When the Set Button is pushed, the flashing portion displayed will be changed in the following sequence.

YEAR: **1990**→1991→ . . . . . →2089→**1990**→...
MONTH: **1**→2→ . . . . . →12→**1**→...
DATE: **1**→2→ . . . . . →31→**1**→...
HOUR: **0**→1→ . . . . . →23→**0**→...
MINUTE: **00**→01→ . . . . . →59→**00**→...

- Repeat procedures **2** and **3** until all items have been set.
- Once the time and date are set, press the Shift Button in response to a precise time signal so that the clock may begin to function.

Recording the Date/Time Indications

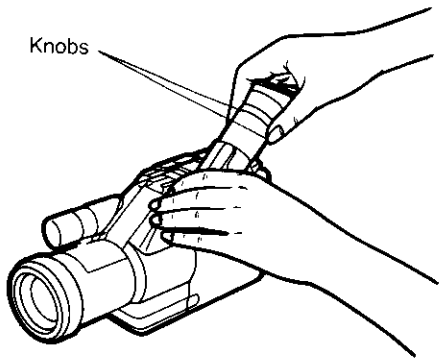
When the Date/Time Selector Button is pushed repeatedly, the indications will change in the following sequence:



EVF, White Cap and Grip Belt

Pulling out the EVF

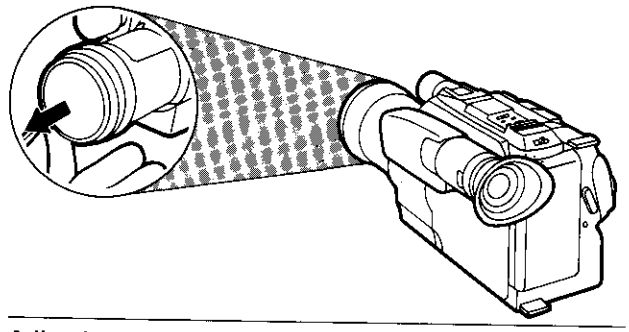
When pulling out the EVF, do not hold it by the Eyecup.



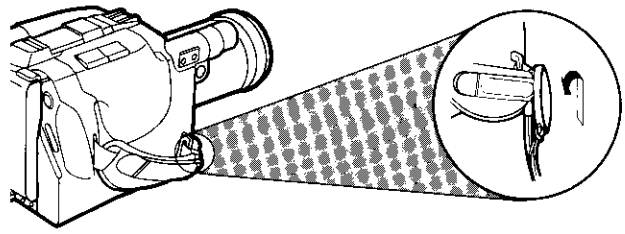
Note:
- Keep the EVF in its fully extended position during shooting.
- Do not apply any pressure on the EVF except for pulling it out and pushing it back in again.
- Be sure to retract the EVF after shooting.

Removing the White Cap

Remove the White Cap by pressing its flange forward with the thumb (as shown in the illustration).

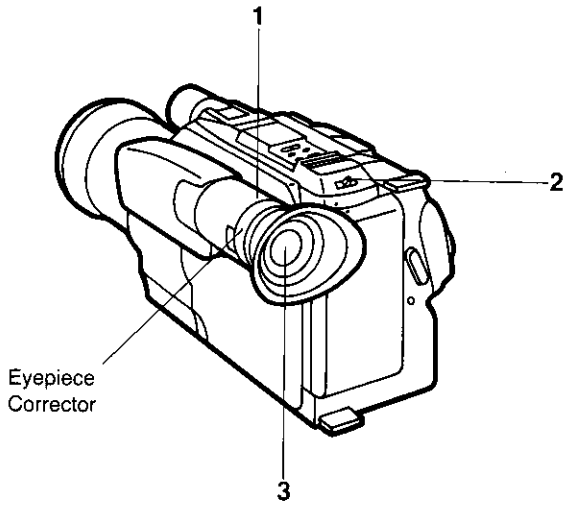


Adjusting the Grip Belt



- Grasp the Handgrip.
- Adjust the length of the Grip Belt.
- Attach the White Cap to the Grip Belt.

Eyepiece



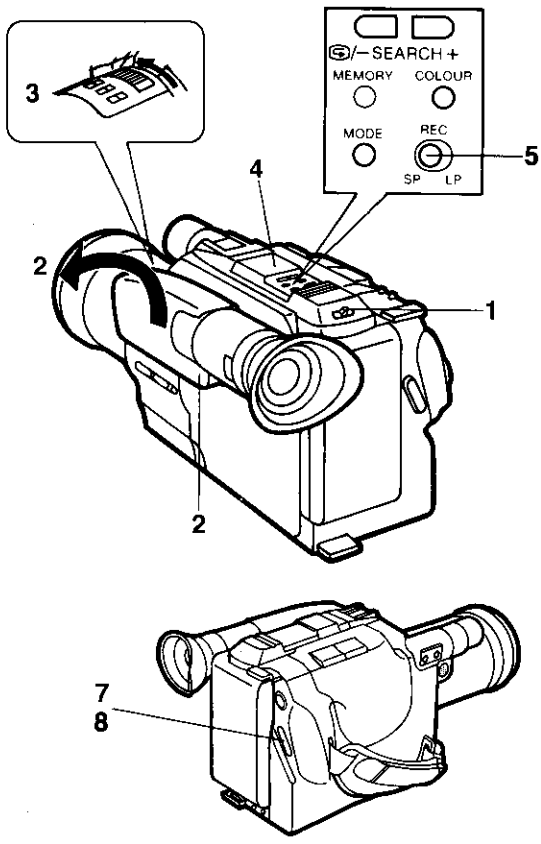
Eyepiece Corrector

With this control the eyepiece can be adjusted to the eyesight.

1 Pull out the EVF to its fully extended position.

2 Turn the Movie Camera on.

3 Adjust the Eyepiece corrector until the indications in the EVF are clearly visible.



To Start Recording

1 Slide the Operation Switch to the right to turn the Movie Camera on.

2 **Turn the EVF by 180° towards the Lens, press the Eject Button and insert a video cassette with the erasure prevention tab intact then, turn the EVF back to its original position.**

3 **Set the Camera Mode Selector Switch to "AUTO".**

4 Set the CAMERA/VTR Selector Cover to the "CAMERA" position.
- The Movie Camera will be in the recording pause mode.

5 Set the Recording Speed Selector to "SP" or "LP".
- **SP:** For normal tape speed
- **LP:** For slow tape speed

6 Place the Movie Camera in the shooting position.

7 Press the Start/Stop Button.
- The recording starts.

8 Press the Start/Stop Button again to stop the recording temporarily. (Recording pause mode)
- If the unit remains in the recording pause mode for more than 6 minutes, it will automatically turn itself off to protect the tape and save battery power.

To Stop Recording

1 Put the Movie Camera in the recording pause mode.

2 Slide the Operation Switch to the right to turn the Movie Camera off.

Rec Review

For checking the last few seconds of recorded scenes.

1 Put the Movie Camera in the recording pause mode.

2 Press the – SEARCH Button.

Camera Search

For checking recorded scenes.

1 Put the Movie Camera in the recording pause mode.

2 **Keep the –SEARCH Button pressed to play back a scene at high speed in reverse direction.**
- The sound is not reproduced.

3 **Keep the SEARCH+ Button pressed to playback a scene at normal speed in forward direction.**
- The sound is reproduced.

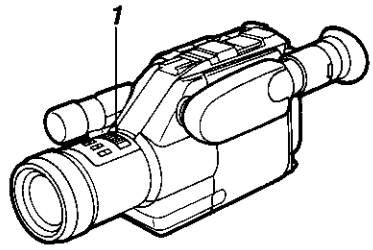
Recording Lock Function

This function ensures smooth scene-to-scene continuation in assemble recording. Even if the Movie Camera has been turned off with the Operation Switch, the tape remains loaded around the head cylinder. The recording lock mode is activated by turning the Movie Camera off during recording pause.

- If the unit remains in the recording pause mode for more than 6 minutes, it will automatically turn itself off to protect the tape and save battery power. (The tape remains wound around the head cylinder. This condition is called "Recording Lock".)
  To use the Movie Camera again, turn it on with the Operation Switch.
- If the recording lock mode continues for more than 48 hours, it will be cancelled and the unit will be turned off.

Focus

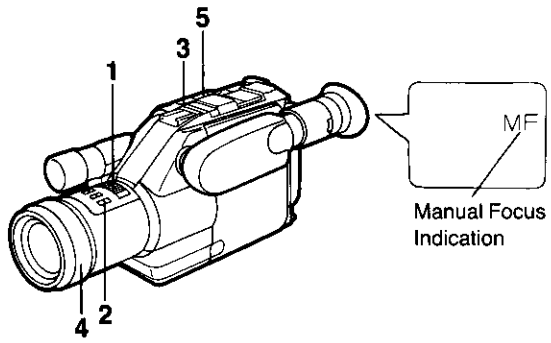
Continuous Auto Focus



1 Set the Camera Mode Selector Switch to "AUTO".

- The focus will automatically be adjusted to the subject in the centre of the EVF.

Manual Focus



1 Set the Camera Mode Selector Switch to "MANUAL".

2 Press the Focus Button.
- The indication "MF" will appear in the EVF.

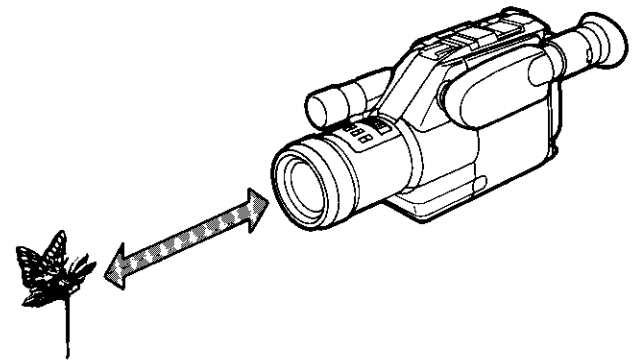
3 To zoom in on a subject, press the "T" Zoom Button.

4 Turn the Focus Ring to adjust the focus.

5 To zoom back from a subject to show more of it, press the "W" Button.
- After putting the Movie Camera into the Recording Lock mode or turning it off and then on again with the Operation Switch in the Manual Focus mode, be sure to repeat operation steps 2 to 5.

Macro Close-Up

For close-up shots of small objects or photos.



1 Keep the "W" Power Zoom Control Button pressed.
- The focus will be adjusted up to a minimum distance of 5 mm between lens and subject.
- After focusing all the way to the wide-angle position, the focus can be adjusted simply by approaching the subject.
- The focus can be adjusted both in the Auto and Manual mode.

Practical Hint for Shooting
- To change the scale of the subject, change the distance from the subject.
- As the depth of field is very small in macro shooting, even slight camera movements can cause the subject to be out of focus. Therefore, it is recommended to use a tripod.
- When shooting pictures in a photo album or a similar situation with insufficient lighting, use a Video Light.
- When the "T" Power Zoom Control Button is pressed to zoom in on a subject, the focus can be adjusted within a range of more than 1 m from the subject.

White Balance

Auto White Balance

This adjustment is necessary to assure natural colour rendition. For continuous automatic White Balance adjustment, set the Camera Mode Selector Switch to "AUTO". This setting will automatically provide well-balanced natural colour rendition under almost any shooting condition.

Manual White Balance Adjustment

1 Attach the White Cap to the lens.

2 Set the Camera Mode Selector Switch to "MANUAL".

3 Keep pressing the "T" Button of the Power Zoom Control Buttons until the screen in the EVF becomes completely white.

4 Keep the White Balance Button pressed for more than 1 second.
The "WHITE" Indication in the EVF informs about the state of the adjustment:
Flashing slowly ..... Not set
Flashing rapidly ..... During setting
The indication "W.SET"is lit ..... Setting is finished

- How to Use the White Cap
  If there is only one light source, attach the White Cap to the lens for the manual white balance adjustment. If there are several light sources or if the illumination is weak (indoor, etc.), remove the White Cap from the lens and point the Movie Camera at a purely white subject, such as white paper, and then adjust the White Balance.
- Automatic Recall of Previous White balance Setting
  When the Operation Switch of the Movie Camera is turned off and later on again, the "WHITE" Indication will flash slowly, however, the last previous white balance setting is still maintained. However, to ensure best possible colour reproduction, adjust the white balance anew as explained above. It is also maintained during Playback, Rec Review and Camera Search. However, the previous white balance setting will no longer be maintained when the AC Adaptor is turned off or the Battery Pack is removed from the Movie Camera.
- When moving the Movie Camera from indoors to outdoors or vice versa, be sure to adjust the white balance anew, as the colour of the light has changed considerably.

High Speed Shutter

A range of different shutter speeds make possible videographing of scenes with fast movements.

1 Set the Camera Mode Selector Switch to "MANUAL".

2 By repeatedly pushing the High Speed Shutter Button, the shutter speed can be changed as follows:

(No indication):	1/50 sec. (normal)
1/120:	1/120 sec.
1/250:	1/250 sec.
1/500:	1/500 sec.
1/1000:	1/1000 sec.
1/2000:	1/2000 sec.
1/4000:	1/4000 sec.

For Playback

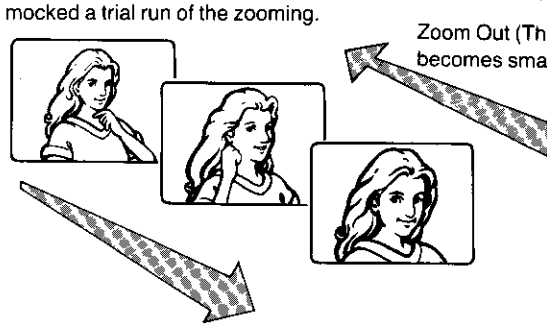
When scenes recorded with high shutter speed(s) are later played back on a VTR equipped with the playback functions Super Still and Super Fine Slow Motion, etc., still and slow motion pictures with very sharp contours and full details can be obtained.

Note:
See page 22 for details.

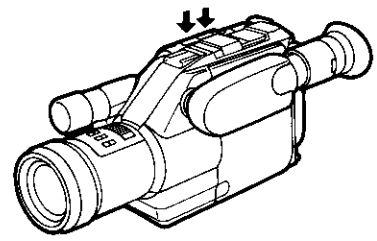
Zooming

Power Zooming

To make your zoom shots more impressive and give exactly the desired effect, do it like the professionals: before recording, mocked a trial run of the zooming.



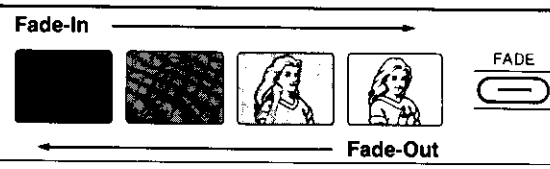
Zoom In (The subject becomes larger)



For wide-angle: Press the "W" Button.
For telephoto: Press the "T" Button.

- For faster zooming speed, press "W" Button (or "T" Button) down more strongly.

Fade-In and Fade-Out



Fade-In

Fade-In is used, for example, at the beginning of a performance. After recording the title, gradual fading-in of the first scene is very effective.

1 With the Movie Camera in the recording pause mode, keep the Fade Button pressed.

2 After the picture has disappeared in the EVF, press the Start/Stop Button.

3 3 seconds later, release the Fade Button.
- The picture will appear gradually.

Fade-Out

Fade-Out is used to give a scene a soft ending or for a smooth fade-out/fade-in transition from one scene to another.

1 During recording, keep the Fade Button pressed to the point where you want to fade out.

2 After the picture has disappeared, press the Start/Stop Button to stop the recording.

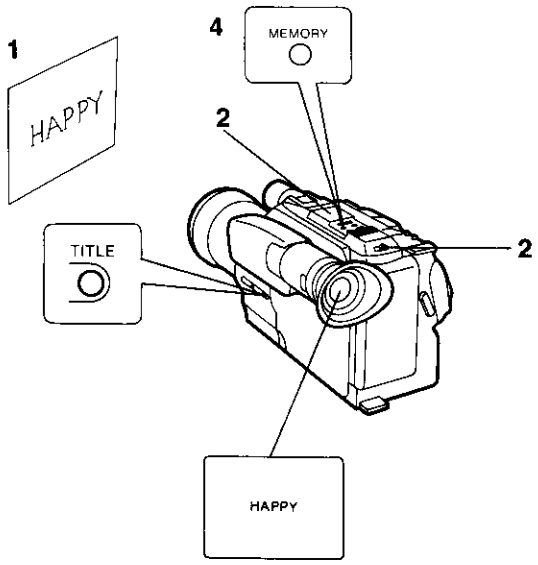
3 Release the Fade Button.

Recording a Title

The titling function makes it possible to input a title into memory and recall it later during shooting at the push of a button for superimposition onto the normal picture (digital Title Memory Function).

Inputting a Title into Memory

This operation can be performed while the Movie Camera is in the recording pause mode.



1 Prepare a printed illustration or a printed title.
- Make a title with a black felt pen on white paper.

2 Turn the Movie Camera on and set the CAMERA/VTR Selector Cover to "CAMERA".

3 Adjust the focus.

4 Press the Memory Button.
- Keep the button pressed for more than half a second.
- The title is memorized.
  While the title is displayed in the EVF, its colour and the titling mode (the way it will be superimposed) can be selected.
- Press the Title Button to make the title in the EVF disappear.

Pressing this button repeatedly will make the title appear→ disappear→appear in the EVF.

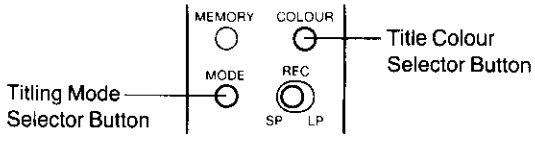
If this button is pressed by mistake during shooting, the title will be superimposed and recorded.

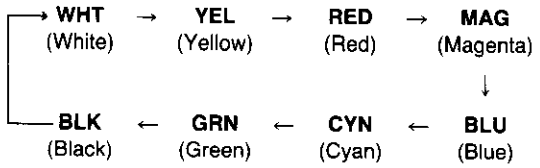
■ Remarks about Titling

The title remains stored in memory until the Button Type Battery is exhausted. When a new title is input, the title previously memorized title will be erased.

Selecting the Colour of a Title

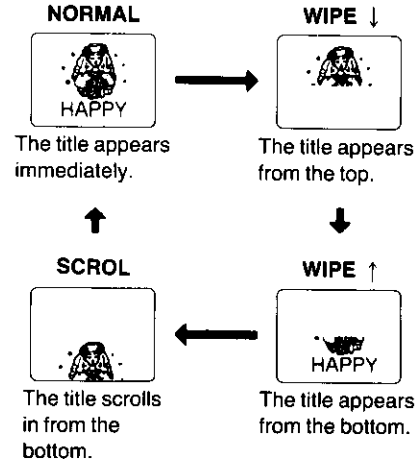
By repeatedly pressing the Title Colour Selector Button, the colour of the title can be changed in the following order. (This function can also be used while the title is being recorded.)





Selecting the Titling Mode

By repeatedly pressing the Titling Mode Selector Button, the way in which the title is superimposed onto the picture being recorded can be changed in the following order. (This function can also be used while the title is being recorded.)

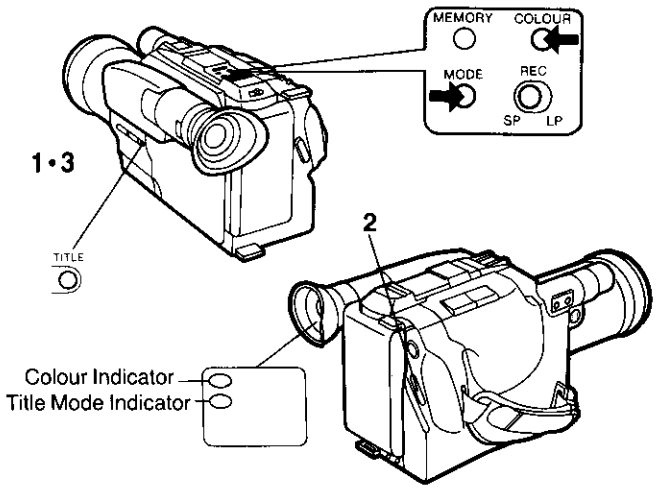


When pressing the Title Button, the Title is indicated in the selected mode.

Note:

Since the top and bottom edge of the title screen will be cut off, shoot the title so that it is in the centre of the screen.

Recording a Title



■ Inserting a Title in the Normal Titling Mode at the Beginning of a Recording

1 Press the Title Button to make the title appear in the EVF.
- Confirm the Colour Indicator and the Title Mode Indicator. At this time, it is possible to change the colour and titling mode for the title.

2 Press the Start/Stop Button to start shooting.
- To stop the superimposition of the title, press the Title Button again.

■ Inserting a Title in the Normal Titling Mode during Recording

1 After having input a desired title into memory, press the Title Button to make the title in the EVF disappear.

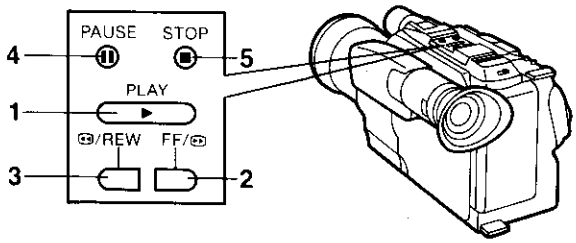
2 Press the Start/Stop Button to start shooting.

3 At the point where you want to insert the title, press the Title Button. (The superimposed title can be seen in the EVF.)
- To stop the superimposition of the title, press the Title Button again.

■ Inserting a Title in the Scroll or Wipe Mode at the Beginning of a Recording

Perform the operation steps 1 and 2 above. After pressing the Start-/Stop Button, wait approx. 2 seconds and then press the Title Button.

Playback



Preparation
- Insert the recorded cassette.
- Turn the Movie Camera on and set the CAMERA/VTR Selector Cover to "VTR".

Operations

1 Playback: Press the Play Button.

2 Cue playback: Keep the FF/⏩ Button pressed during playback.

3 Review playback: Keep the ⏪/REW Button pressed during playback.

4 Still playback: Press the Pause Button during playback.
- To return to normal playback, press this button again.

5 Press the Stop Button to finish playback.

Fast Forward

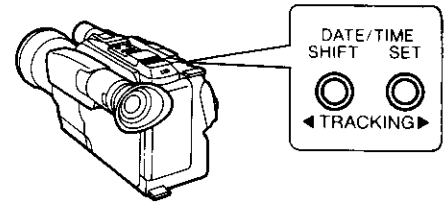
Press the FF/⏩ Button to rapidly wind the tape forward.

Rewind

Press the ⏪/REW Button to rapidly rewind the tape.

Tracking Control

When the Picture is distorted by noise bars during playback, the Tracking needs to be adjusted.



1 Press both the Tracking ◀ and ▶ Buttons simultaneously.

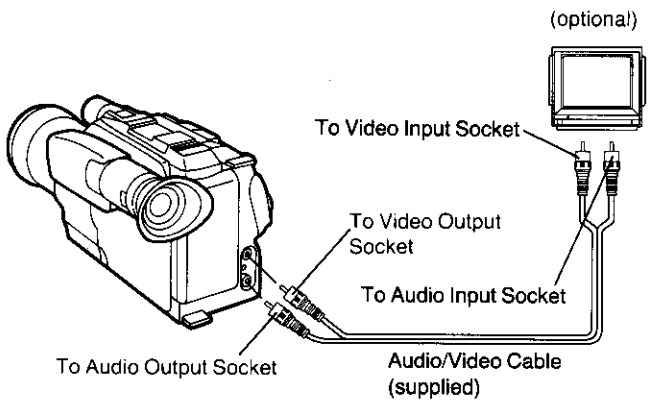
2 Adjust the Tracking with the Tracking ◀ or ▶ Button.

- When playing back a tape which has been recorded on another movie camera, it may not be possible to completely eliminate this distortion.
- Noise which takes the form of horizontal bars appears in the Cue, Review and Still playback modes. This is not an indication of a malfunction.
- In the Cue, Review and Still modes, the picture may become black and white or distorted. This is not an indication of a malfunction.

Note:
- The sound will be played back only during normal playback.
- Playback: The tape will be rewound automatically when it reaches its end.
- Fast Forward: The tape will be rewound automatically when it reaches its end.
- Rewind: The tape will stop automatically when it reaches its beginning.
- Still Playback: If the Movie Camera is left in this mode for about 6 minutes, it will switch over to the stop mode, to protect the tape and video heads.

Playback via TV Set (Connections)

TV Set with AV Input

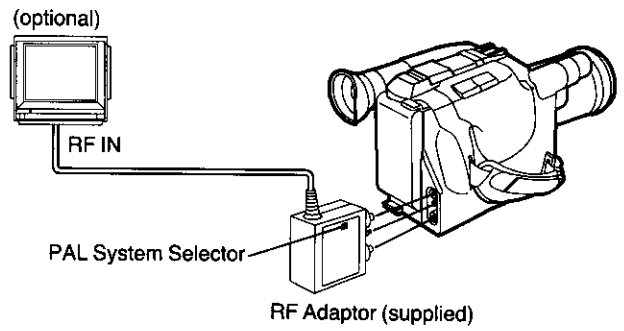


Playback on a table Type VTR

Use the Cassette Adaptor.

TV Set without AV Socket

Before connecting the RF Adaptor, turn the Movie Camera off with the Operation Switch.



Australia model only:

FOR YOUR SAFETY:
Install any external aerial to AS 1417.1.

TV
Tune to UHF channel 36.

PAL System Selector
For the Australia and New Zealand region, set the RF Converter Channel Selector at "G" position.

Other Functions

Memory Search Function

1 Press the Reset Button at the desired point.
- The Tape Counter is reset to "0:00.00".

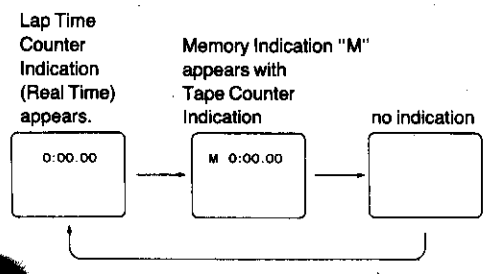
2 Press the Memory/Display Button.
- The "M" indication appears in the EVF.

3 Start the playback.

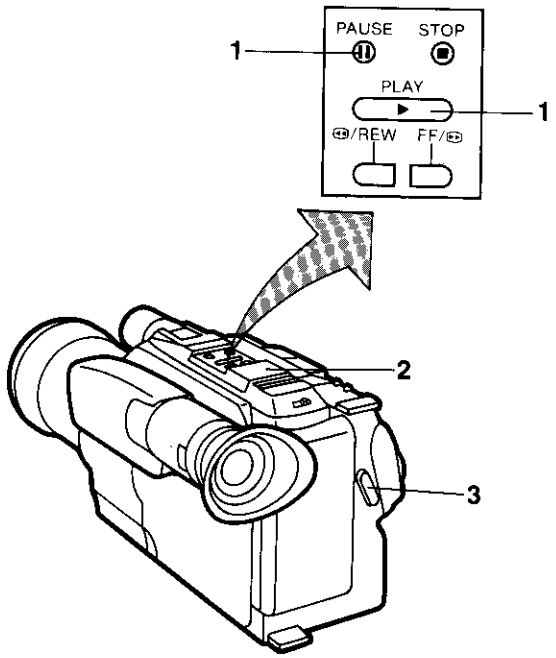
4 After pressing the Stop Button, press the ⏪/REW Button.
- The tape will stop automatically at about the point where the tape counter reads "0:00.00".

Tape Counter Indication

At every push of the Memory/Display Button, the Counter Indication will change as follows:


Lap Time Counter Indication (Real Time) appears.
Memory Indication "M" appears with Tape Counter Indication
no indication
0:00.00
M 0:00.00

Assemble Editing



Preparation

- Insert a video cassette with intact erasure prevention tab.
- Set the CAMERA/VTR Selector Cover to "VTR".

Operation

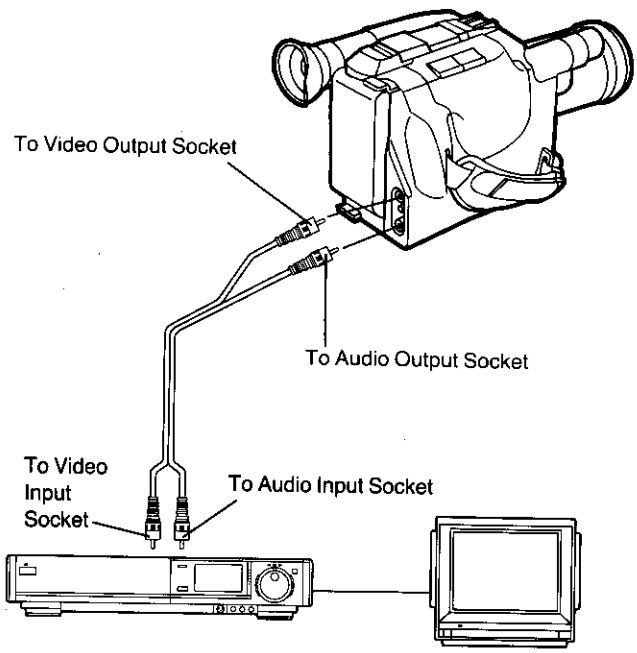
1 Play back the tape to locate the point where the new recording is to be joined (Assemble Editing), and press the Pause Button at the desired point.

2 Set the CAMERA/VTR Selector Cover to "CAMERA".

3 Press the Start/Stop Button to start shooting the new scene.

Dubbing (Copying)

For Playback



For Recording

Operation

1 Press the Play Button on the Movie Camera to start playback.

2 Press the Record Button on the VTR to start recording.

Note:

The picture quality of a copied tape is inferior to that of the original tape.

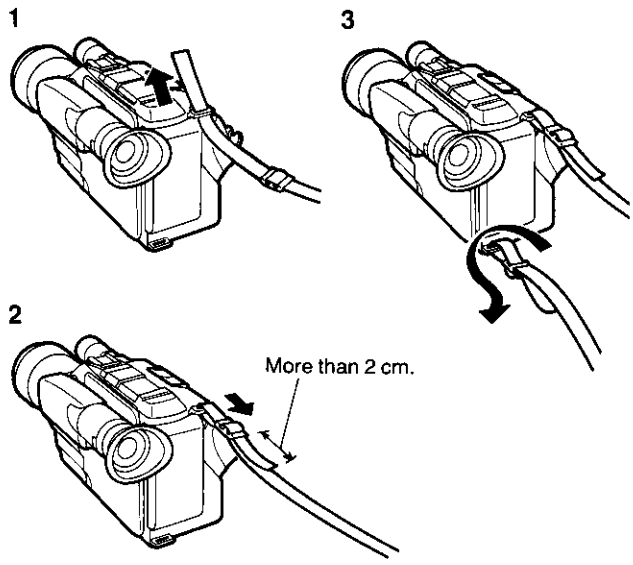
- For details, refer to the operating instructions of the recording VTR.

Synchro Editing

Use the Synchro Editing Cable (optional) to connect the Remote Control Socket on the Movie Camera with the synchro edit socket on the recording VTR.

- If the recording VTR is equipped with Synchro-Edit function, this Movie Camera can be operated via the recording VTR, i.e. playback start and stop of the Movie Camera will be synchronized with the recording start and stop on the VTR.
- For details, refer to the operating instructions of the recording VTR.

Shoulder Strap



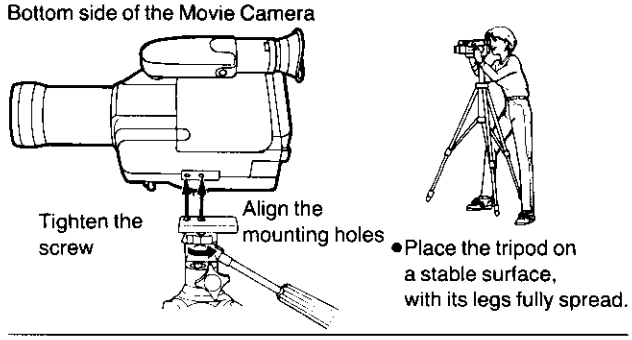
1 Pass the end of the Shoulder Strap through the slit of the Shoulder Strap Holder on the upper part of the rear of the Movie Camera.

2 Securely attach the end of the strap.

3 Attach the other end of the Shoulder Strap at the lower part of the rear of the Movie Camera in the same way as mentioned above.

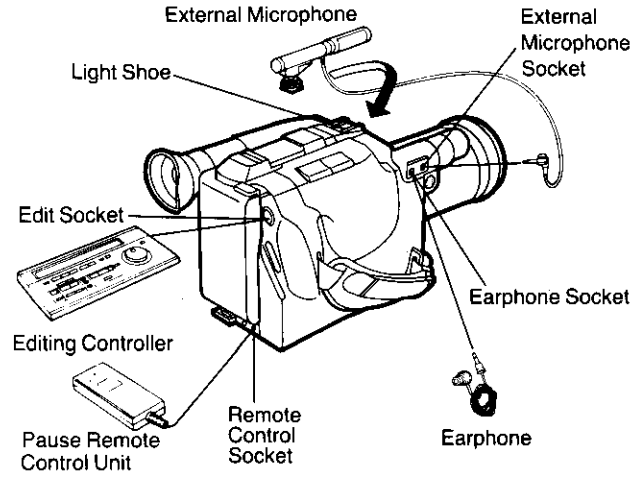
Tripod Mount

Bottom side of the Movie Camera



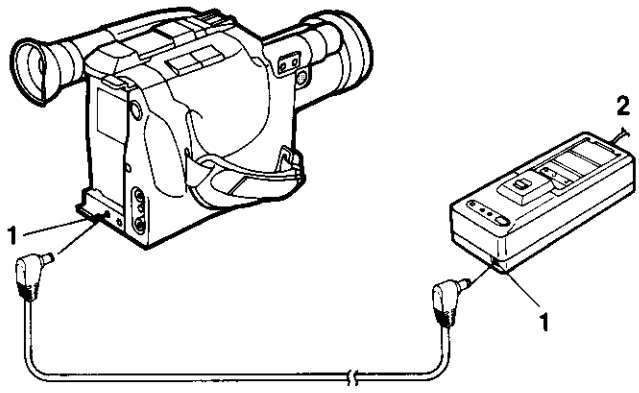
- Place the tripod on a stable surface, with its legs fully spread.

Other Connections (Optional)



- To attach Video DC light (VZ-LDS15E; optional), the L-shaped Shoe Adaptor (VW-SK3E; optional) is necessary.

AC Adaptor



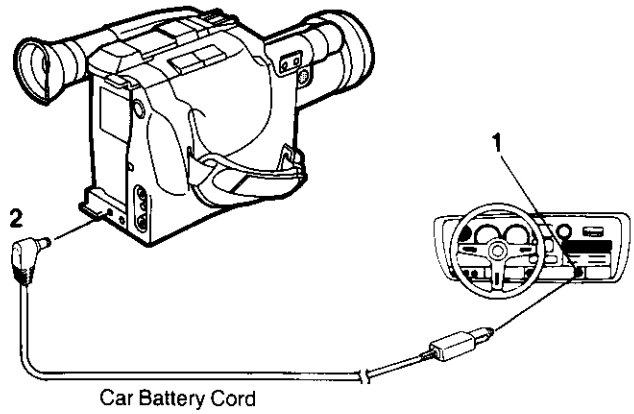
1 Connect the Power Supply Cable from the DC Output Socket on the AC Adaptor to the DC Input Socket on the Movie Camera.

2 Connect to the Mains.

Note:

When the AC Adaptor is used to supply the Movie Camera with power, remove the Battery Pack from the AC Adaptor.

Car Battery Cord



1 Start the engine and insert the Car Battery Cord into the cigarette lighter socket.

2 Connect the other end to the DC Input Socket on the Movie Camera.

Note:

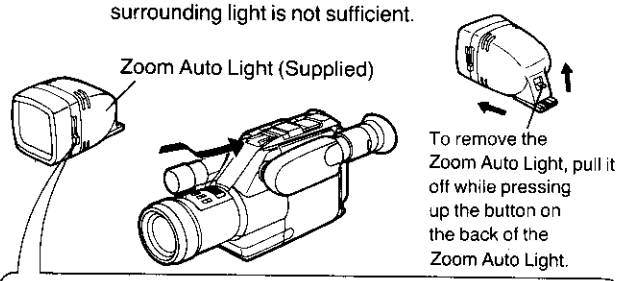
- The Car Battery Cord can only be used with 12V DC negative-grounded vehicles.
- Do not start the car engine while the Movie Camera is powered by the car battery.
- With this connection, the Zoom Auto Light (supplied) cannot be used.

Zoom Auto Light (Supplied)

By sliding the slider on the side of the Zoom Auto Light up and down, the angle of the reflected light can be adjusted as desired.
To select the operation mode of the Zoom Auto Light, press the Auto Light Button of the Movie Camera.

ON: The Zoom Auto Light turns on.

AUTO: When the Movie Camera is in Recording Pause mode, the Zoom Auto Light automatically turns itself on, if the surrounding light is not sufficient.


Zoom Auto Light (Supplied)
To remove the Zoom Auto Light, pull it off while pressing up the button on the back of the Zoom Auto Light.

- Slide it upward to widen the light diffusion angle.
- Slide it downward to narrow the light diffusion angle.

- Do not touch the top of the light during and shortly after use. It becomes extremely hot.
- When the Movie Camera is turned off, the Zoom Auto Light reset to the off mode.
- By pressing the Auto Light Button once, the Zoom Auto Light is switched to "AUTO". (The "AUTO" indication will appear in the EVF.) When the Auto Light Button is pressed once more, the Zoom Auto Light is switched to "ON". (The "ON" indication will appear in the EVF.)

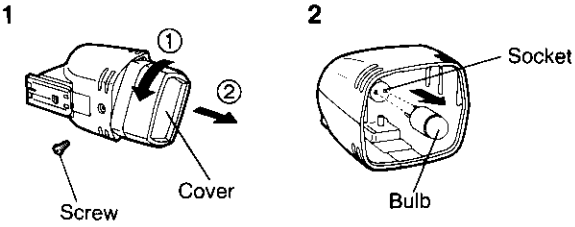
Zoom Auto Light "AUTO" mode

When the Movie Camera is in the Recording Pause mode and the surrounding light is insufficient, the Zoom Auto Light will automatically light up, if it is in the AUTO mode. (If the surrounding light is sufficient, the Zoom Auto Light will not light up.)

- Once the Zoom Auto Light is switched on, it will not go out until the recording is stopped by pressing the Start/Stop Button (until the next Recording Pause mode), even if the brightness of the scene increases.
  The Zoom Auto Light will not light up in the course of a recording, even if the scene becomes darker.
- The Zoom Auto Light operates only when the CAMERA/VTR Selector Cover is set to "CAMERA".
- The Zoom Auto Light should be attached after turning the Movie Camera off.
- Before placing the Movie Camera in the Carrying Bag or another bag, be sure to remove the Zoom Auto Light.
- When turning on the Zoom Auto Light, make sure that no other equipment such as Editing Controller, Character Generator, RF Adaptor, etc. is connected to the Movie Camera.

Exchanging the Light Bulb of the Zoom Auto Light

Before replacing a burned-out light bulb, make sure that the Zoom Auto Light is no longer hot.



1 Loosen the Screw on the bottom and remove the Cover in the direction of the arrow.
2 Pull out the old bulb in the direction of the arrow.
3 Hold the new bulb with a dry cloth and insert it into the socket.
- Do not touch the bulb without a cloth.
  Fingerprints and dirt reduce the brightness and shorten the life of the light bulb.
- Fingerprints on the bulb must be removed by wiping it with a dry cloth.

4 Reattach the Cover and tighten the Screw.

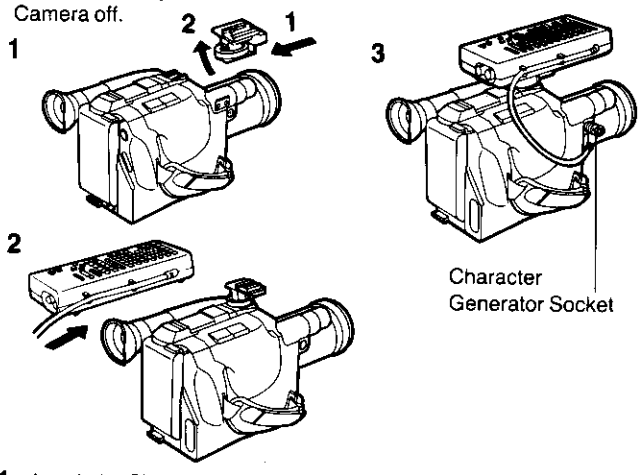
Character Generator

The use of the optional Character Generator makes it possible to record titles, time, date and stopwatch while shooting.

Attaching

Use the Shoe Adaptor that is supplied with the Character Generator.

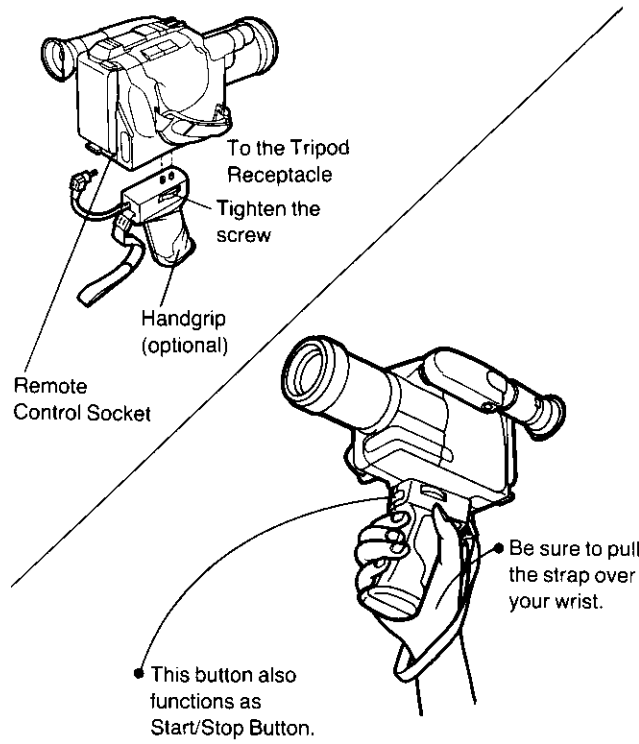
- Before attaching the Character Generator, turn the Movie Camera off.



1 Attach the Shoe Adaptor and tighten the screw.
2 Attach the Character Generator to the Shoe Adaptor.
3 Insert the plug of the Character Generator Cord into the Character Generator Socket.

[redacted] operation of the Character Generator, see the operating [redacted]ns of the Character Generator.

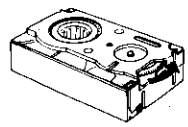
Handgrip

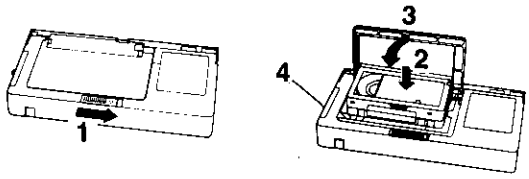

To the Tripod Receptacle
Tighten the screw
Handgrip (optional)
Remote Control Socket
Be sure to pull the strap over your wrist.
This button also functions as Start/Stop Button.

Cassette Adaptor

Loading the Cassette

Before loading the cassette into the Cassette Adaptor, turn the cog wheel in the direction of the arrow to pull in the slack of the tape.





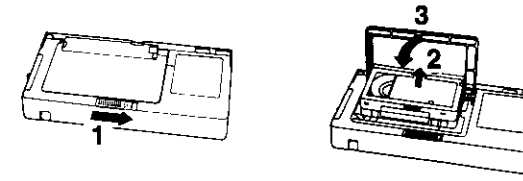
1 Slide the Open Button in the direction of the arrow, and the Compartment Cover will pop open.

2 Insert the Cassette.

3 Close the Compartment Cover firmly.
(Tape loading starts automatically. During loading, do not touch the rotating part on the underside of the Cassette Adaptor.)

4 The Stopper is retracted.
(When the Stopper is completely retracted, the tape loading in the Cassette Adaptor is completed. It can now be inserted into a VHS video recorder.)

Taking Out the Cassette

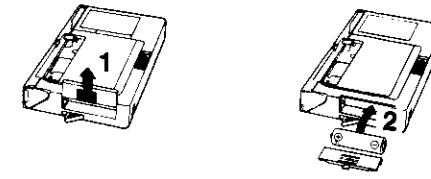


1 Slide the Open Button in the direction of the arrow.

2 Take out the cassette.
- Pushing the cassette from the underside of the adaptor will make it easier to take it out.

3 Close the Compartment Cover.

How to Load the Battery

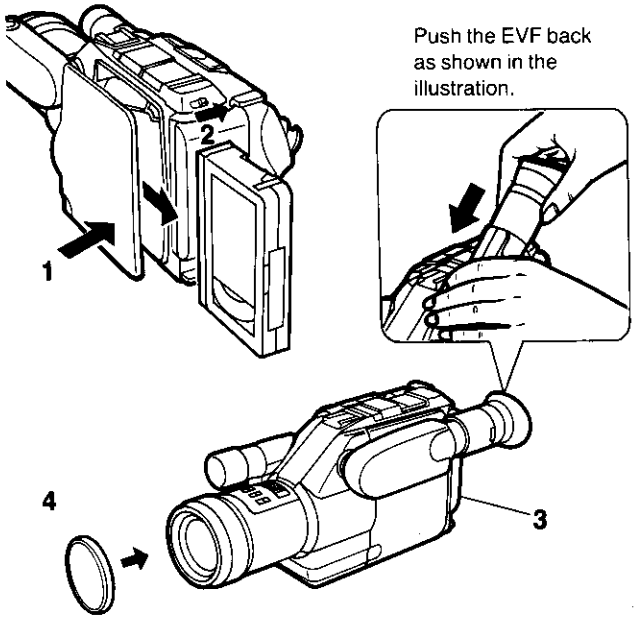


1 Slide the Battery Cover upward and remove it.

2 Load one "R6" size battery with the polarities correctly aligned and replace the cover by pushing it down until it locks with a click.

CAUTION FOR BATTERY REPLACEMENT
- If the tape loading time is getting longer, the battery is becoming exhausted. Replace it with a new one.
- Load the new battery with its polarities (+ and −) aligned correctly.

After Shooting



1 Eject the Cassette.
(See page 7 for details.)

2 Turn the Movie Camera off.

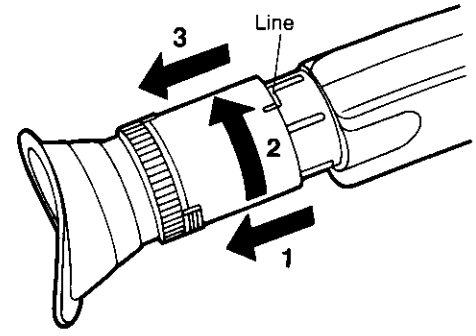
3 Remove the Battery Pack.
(See page 7 for details.)

4 Attach the White Cap to the lens.

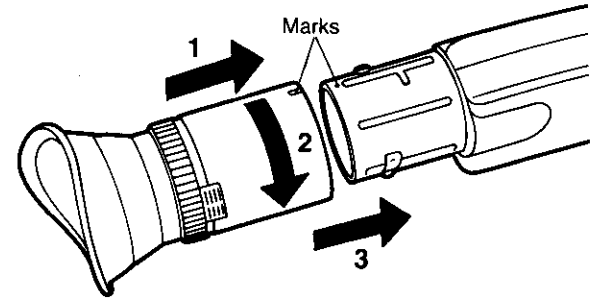
Removing and Attaching the Eyecup

The Eyecup can be removed for cleaning or viewing the EVF with the left eye.

Removing the Eyecup
Pull up the Eyecup by the line, and turn it counterclockwise.



Attaching the Eyecup
Align the marks, and insert the Eyecup and turn it clockwise.



Cautions

Please read these cautions before operating the Movie Camera and its accessories.

Video Head Clogging

The video heads are the means by which the Movie Camera places picture signals on the tape during recording, and reads picture signals from the tape during playback. If these heads become dirty and clogged from long use, the signals can no longer be recorded correctly, and the playback picture will be distorted accordingly. This is the case, for example, during the playback of a tape, the sound of which is reproduced normally, but no picture is seen, or the picture is greatly distorted. When such symptoms occur, have the Movie Camera checked by qualified service personnel.
This Movie Camera is equipped with Head Clogging Detection Function. When the heads are clogged, the "⊗" Indication in the Viewfinder will appear. As the accumulation of dirt on the heads may be dislodged by the movement of the tape, it is possible that this indication sometimes appears, but may not reappear on the next recording start.
The Head Clogging Detection Function will be activated when the shooting is started from the shooting pause mode. However, it will not be activated when shooting immediately after replacing the cassette and after playing back some part of the tape.

If Condensation Forms Inside the Movie Camera

Condensation (dew) forms when warm air comes in contact with a cold object, for example on a window in a heated room in winter. Condensation may also form in the Movie Camera and damage the tape and the video heads, if:

- The Movie Camera is in a room where the heater has just been turned on.
- The Movie Camera is in a room with steam or high humidity.
- The Movie Camera is brought from cold surroundings into a well-heated room.
- The Movie Camera is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.
- When condensation has formed inside the Movie Camera, the "DEW" Indication in the Viewfinder will flash and a few seconds later, the Movie Camera will turn itself off to protect the tape and the video heads.
  After a while, turn the Movie Camera on again and make sure that the "DEW" Indication is not displayed any more. Then, wait about 1 hour before operating the Movie Camera again. Depending on the surrounding conditions, it may take several hours before the Movie Camera can be used again.
- As condensation forms gradually, it may take about 10–15 minutes before the Movie Camera turns itself off after a change of working environment.
- In an extremely cold place, condensation may freeze and turn into frost. In this case, it may take quite some time for the frost to melt, turn into dew and evaporate.
- When you bring the Movie Camera from a very cold place, e.g. the ski slopes, into a heated room, keep it in a tightly closed plastic bag or similar to prevent condensation from forming inside the Movie Camera.

Cautions for the Movie Camera

In case of abnormal operation of this unit (e.g. if it emits smoke or some unusual smell), immediately stop the operation and consult qualified service personnel.

■ Cautions for Use:

- Do not disassemble or reconstruct this unit. Some internal parts of this unit have high voltage. Disassembling or reconstructing is very dangerous and may cause serious damage to the unit.
- Never put any objects inside.
  Never insert any metal objects or inflammable material through any of the openings (cassette compartment, etc.). If any liquid is spilled into the unit, immediately stop the operation and consult qualified service personnel.
  Operating the unit with some foreign matter inside may cause malfunction or electric shock.
  If children have access to this unit, special attention should be paid to this point.
- Never aim the lens at the sun because this could cause permanent damage to the CCD image sensor. Such damage could manifest itself in reduced picture quality or could make shooting altogether impossible. Attention should be paid to this point not only during shooting but during other operations as well.
- Never subject the unit to strong vibrations or shocks.
  Shocks during use may result in picture distortion.
- Do not use this unit during a thunderstorm, especially not in a large open field, because this would be very dangerous.
  If used indoors during a thunderstorm, be sure to disconnect the AC Adaptor from the mains outlet.
- Never use this unit with the cassette compartment facing down, because this could cause uneven winding, slacking and damage to the tape.
- Do not use the viewfinder as a carrying handle when transporting the unit.
- Do not use any mini-size tripods other than the recommended optional one, because some tripods are not stable enough for this unit. A fall could seriously damage the unit.

■ **Cautions for Surroundings:**

- Do not use this unit in any place where water or some other liquid could splash on it.
- Do not operate this unit very near a TV set or radio, because this could negatively influence the picture and sound reception.
- Keep this unit away from areas with strong electric fields, because they could impair the proper functioning of this unit and cause picture distortion.
- Keep this unit away from objects emitting high temperature, such as heaters.
- Do not insert video cassettes into the unit or take them out from it in dusty places.
- It is not possible to use this unit in the water. If it is accidentally dropped into water (or some other liquid), disconnect it from the AC Adaptor, take it out of the water, and then consult qualified service personnel.

■ **Cautions for Connections:**

- Before connecting, confirm that all systems are turned off and that the connecting cables are not damaged.
- Do not expose the connection cables to high temperatures, chemicals and objects with sharp edges; also do not bend the cables excessively.

■ **Cautions for Storage and Transportation:**

- Do not leave this unit in places exposed to direct sunlight (e.g. a closed car in summer) or near heaters. Excessive heat could deform the body or cause other damage to the unit.
- The packing materials in which the unit is shipped are designed for optimum protection. Keep them for transporting the unit in the future.
  Store the unit and video cassettes away from magnetized objects such as toys containing motors and batteries.
- Do not leave this unit in places with high temperature and high humidity such as in a closed car or in places with steam or oily smoke.
  If this unit is left in a damp place for a long time, mold could form on and damage the lens.
- Do not leave this unit in contact with rubber or plastic products for a long time, because it could cause deformation and discoloration of the body.

■ **After Use:**

- Be sure to attach the Lens Cap.
- When this unit is connected to the AC Adaptor, turn this unit off before unplugging the AC Adaptor.
- When this unit is not going to be used for a longer period of time, remove the cassette before turning this unit off.
- When the unit is not going to be used for a long period of time, turn the unit on occasionally to prevent malfunction.

Cautions for the Battery Pack

The function of the Battery Pack is based on a chemical reaction. Pay attention to the following points when using it.

- If charged at low temperatures, the operation time of the Battery Pack becomes shorter.
- For recharging, use the specially designed AC Adaptor or Battery Charger only.
- Charge the Battery Pack within a temperature range of 10°C–35°C. At higher or lower temperatures, the Battery Pack cannot be charged to its full capacity.
- Do not recharge the Battery Pack when it is already fully charged.
- If, in spite of normal recharging, the operation time of the Battery Pack becomes too short for practical use, the service life of the Battery Pack has reached its end. Replace it with a new one.
- During operation of this unit or during recharging, the Battery Pack may become warm. However, this does not pose any problem.
- When the Battery Pack is not being used, remove it from the Movie Camera or the AC Adaptor.
- Do not short-circuit the connectors nor disassemble or reconstruct the Battery Pack.
- Do not throw the exhausted Battery Pack into a fire.

■ **Cautions for Storing the Battery Pack:**

- Do not store the Battery Pack in contact with metal objects because they could short-circuit the connectors of the Battery Pack and exhaust it.
- Do not leave the Battery Pack at places with high temperature, e.g. on the dashboard of a car or other places exposed to direct sunlight.

Cautions for the AC Adaptor

- Before connecting the AC Adaptor to an AC wall outlet, confirm that the voltage on the rating plate matches your local AC mains voltage.
- When not using the AC Adaptor, unplug its mains cable.
- Do not use the AC Adaptor for any purposes other than supplying the unit with power and charging the Battery Pack.
- When unplugging the mains cable, pull it by the plug, not by the cable.
- When listening to a radio while the AC Adaptor is in operation, the radio reception may be distorted. In this case, move the radio farther away from the AC Adaptor.
- Do not place any heavy objects on the AC Adaptor.
- When cleaning the AC Adaptor, be sure to turn it off.

Be sure to obtain a warranty card from the shop at the time of purchase, and make sure that it contains all necessary informations.

For Auto Focus

The Auto Focus System will not provide stable and accurate focus adjustment if you are shooting:

1. A subject behind dirty glass.
2. Shiny surfaces.
3. A subject with a part of it near and another part far from the Movie Camera.
4. An oblique subject.
5. A subject with horizontal stripes.
6. A flat surface, e.g. a white wall.
7. With the macro close-up function, special lenses or filters.
8. A fast-moving subject.
9. A subject having a dark surface.

In these cases, use manual focusing.

For White Balance

The Auto White Balance Adjustment may not be accurate when:

1. When shooting under mercury-vapor, natrium or some types of fluorescent lamps.
2. When intense lighting is used, e.g. from a halogen lamp, or when the colour temperature of the light source is low.
3. When shooting a subject of a single colour or a subject in front of a single-colour background.
4. When shooting outdoors at sunrise or sunset.
5. When using a gray filter (ND) or other special filters.
6. When using a conversion lens.
7. When using the Movie Camera under weak illumination.

In these cases, use the manual white balance adjustment mode.

If it is moved from outdoors to indoors during recording, the picture will initially take on a slightly reddish cast but it will gradually regain its natural colours.

For High Speed Shutter

The following conditions are required for shooting with the High Speed Shutter function:

- The subject must be brightly lit, with little shade, under sunlight or some other illumination.
- If shooting under the illumination produced by fluorescent lamps, the picture will be adversely influenced by flickering.
- If the picture is played back in the normal playback mode, the movements may appear to be not very smooth.
- The playback picture will be slightly darker than the picture recorded without using the High Speed Shutter function.

Before Requesting Service

Power Source

- The power does not turn on.
  —Is the power supply unit correctly connected to the Movie Camera?
- The power turns on, but it turns off again immediately.
  —If the Battery Pack is exhausted, replace it with a fully charged one.
  —If condensation has formed, wait until it has dissolved.

Camera Recording

- The power is on, but no picture appears in the EVF.
  —Is the lens covered with the lens cap?
- Camera recording cannot be performed.
  —If the tab of the cassette is broken out, cover the tab hole with adhesive tape.
- The picture is not clear.
  —Is the eyepiece correctly adjusted to your eyesight?
  —Is the lens surface dusty?
- The Auto Focus System does not provide optimum focus adjustment.
  When the focusing precision is not satisfactory in the Auto Focus mode, press the Focus Button and adjust the focus manually.

Playback

- No playback picture is reproduced.
  —Is the connection to the TV set correct?
  —Is the TV set tuned to the video playback channel?
- The colours are not correct.
  —Is the colour adjustment of the TV set correct?
- The playback picture is not in colour.
  —Adjust the Tracking.
  —If the tape is old, use a new tape.

Specifications

NV-G202A Information for your safety

Power Source:	DC 6.0 V
Power Consumption:	Recording mode; 6.9 W (Battery Operation) 10.8 W (with Zoom Auto Light)

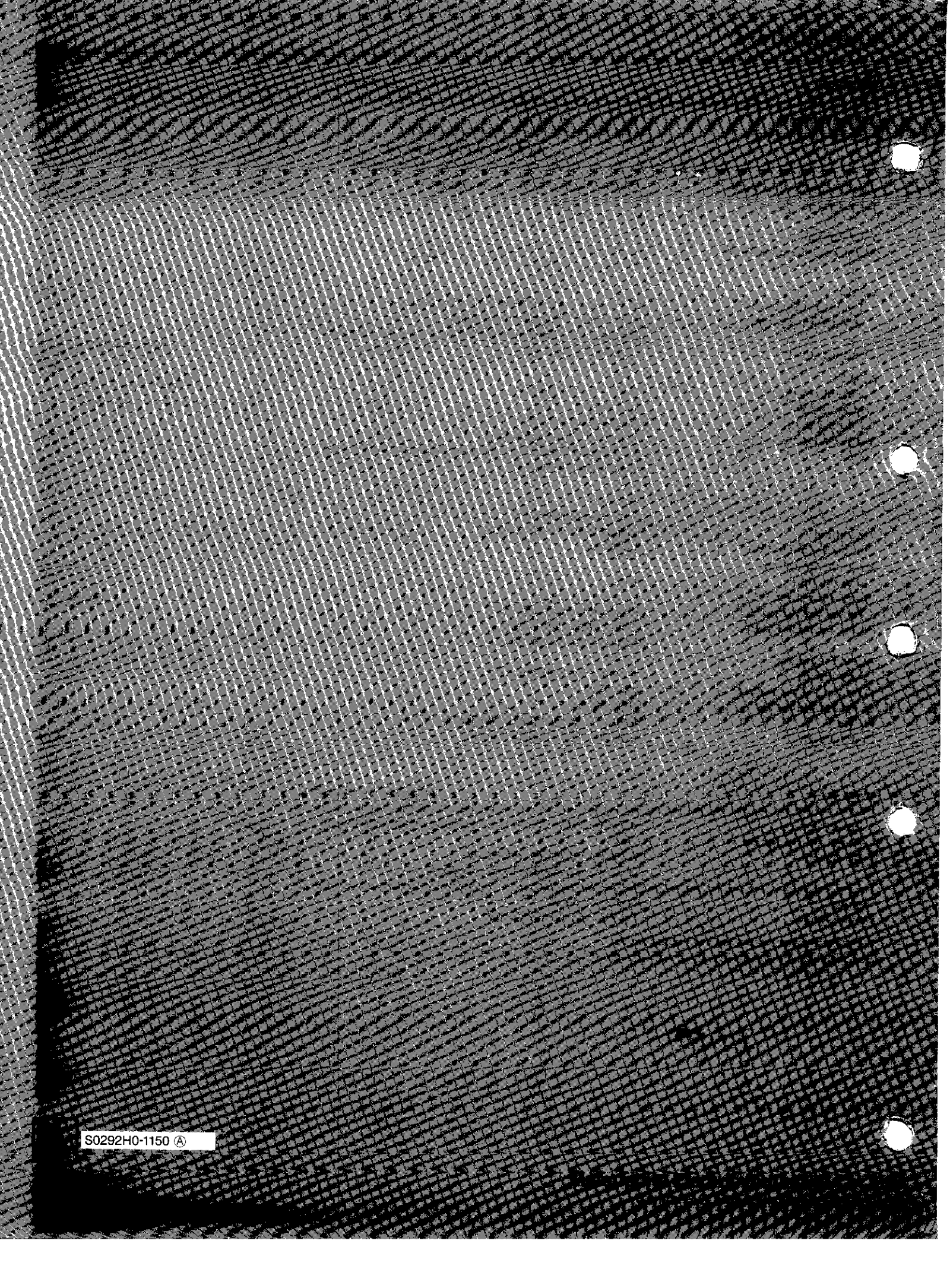
Video Recording System:	4 Rotary heads, helical scanning system		
Tape Speed:	SP; 23.39 mm/s LP; 11.7 mm/s		
Tape Format:	VHS-C		
Recording/Playback Time:	45 min. with NV-EC45E (SP) 90 min. with NV-EC45E (LP)		
VIDEO			
Television System:	CCIR; 625 lines, 50 fields PAL colour signal		
Modulation System:	Luminance; FM azimuth recording Colour signal; Converted subcarrier phase shift recording		
Output Level:	VIDEO OUT (PHONO);	1.0 Vp-p,	75 ohm unbalanced
AUDIO			
Output Level:	AUDIO OUT (PHONO);	−8 dB,	600 ohm unbalanced
Input Level:	MIC IN (M3);	−70 dB,	4.7 kohm or more unbalanced
Audio Track:	1 track (Normal-Mono)		
Image Sensor:	1/3-inch CCD Image Sensor		
Lens:	8:1 2-Speed Power Zoom Lens with Digital AI Auto Focus Focal Length 5–40 mm F1.4 Auto Iris Filter Diameter 49 mm		
Viewfinder:	2/3-inch Electronic Viewfinder		
Standard Illumination:	1,400 lux		
Minimum Required Illumination:	3 lux		
Video Horizontal Resolution Colour:	VHS; More than 230 lines		
Signal-to Noise Ratio:	Video; More than 40 dB Audio; More than 41 dB		
Audio Frequency Response:	Normal; 80–8,000 Hz (SP)		
Operating Temperature:	0°C–40°C		
Operating Humidity:	20%–80%		
Weight:	Approx. 1 kg (without Battery Pack)		
Dimensions:	142 (W)×120 (H)×283 (D) mm		

VW-AS1A Information for your safety

Power Source:	AC 100–240 V, 50–60 Hz (Automatic voltage adjustment)
Power Consumption:	25 W
DC Output:	DC 6 V 11.8 W (Movie Camera) DC 6 V 1.3 A (Battery Pack charging)

Weight:	Approx. 0.39 kg
Dimensions:	70 (W)×58 (H)×178 (D) mm

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.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